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Conference Abstract

Use of Symbiota Portals to Integrate Biodiversity Information in Latin America

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Abstract

Symbiota is an open-source software for the management and mobilization of biodiversity data (Gries et al. 2014). Online Symbiota portals, often with regional or taxonomic scope, are used by more than 1,200 natural history collections to directly digitize and manage their specimen records. A simplified form with all relevant terms from the Darwin Core standard (Wieczorek et al. 2012), allow users to easily transcribe the information about the specimens (Fig. 1). At the same time, Symbiota portals facilitate the integration of images and other linked resources to each record, increasing the digital information available for each specimen (Hardisty et al. 2022). Symbiota portals can also incorporate snapshots of external datasets, expanding the accessibility of biodiversity information for the community of users. Data integration and specialized tools in Symbiota portals enable the generation of interactive resources to advance biodiversity research (e.g. checklists and taxonomic keys). Most Symbiota portals have been funded by projects in the United States, and are managed by the Symbiota Support Hub (SSH), based at the University of Kansas. However, easy access to existing portals has encouraged their use by collections worldwide. Translations to Spanish, French and Portuguese also increase the participation of international users in Symbiota communities. Moreover, by following biodiversity data standards (e.g., Darwin Core) and accessibility principles (Wilkinson et al. 2016), collections digitized in Symbiota portals

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can be further mobilized to regional and global aggregators (e.g., Integrated Digitized Biocollections, Global Biodiversity Integration Facility), increasing the reach of the data.

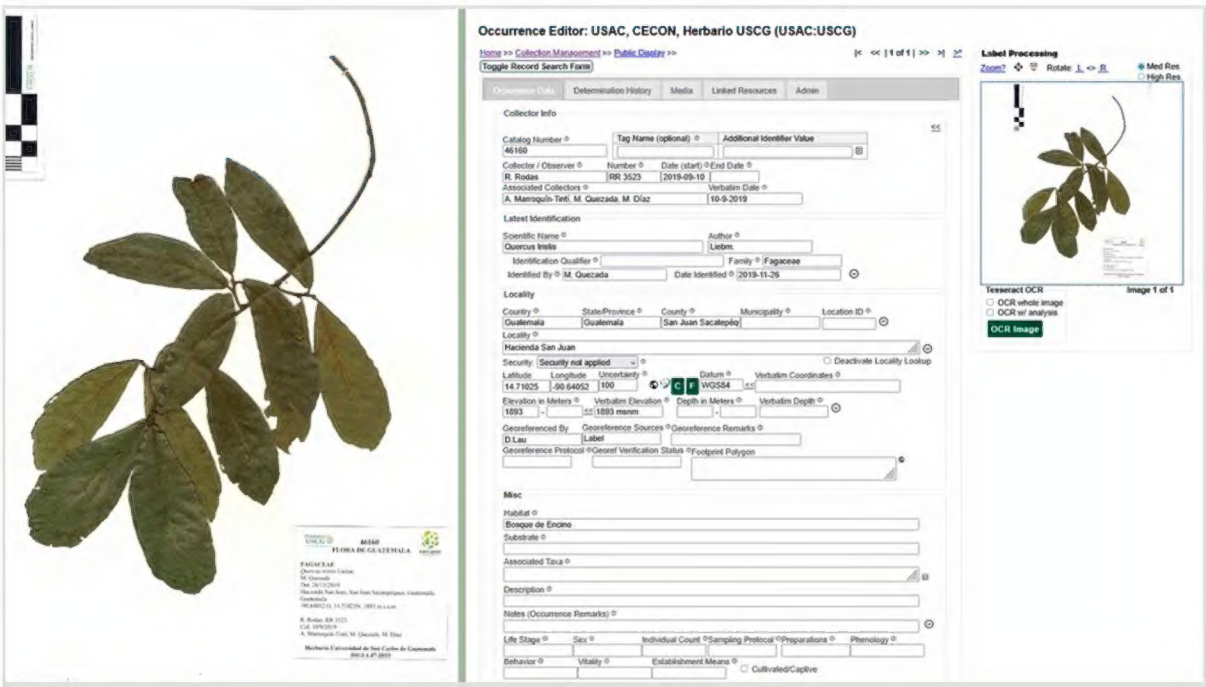

Figure 1.

Ocurrence editor in a Symbiota portal. Specimen image courtesy of USCG Herbarium (CC-BY-NC-4.0).

In Latin America, at least 140 collections in 12 countries are actively using Symbiota portals to manage and mobilize their specimen data. Portals like Neotropical Flora, Mexican Herbaria Network, and InvertEBase are currently hosting more than 500,000 botanical, zoological and paleontological specimen records. Communities in portals like Consortium of Lichen Herbaria and Guatemala Biodiversity are also developing interactive resources for the study of local biodiversity, including checklists for specific taxa (Yánez-Ayabaca et al. 2023) or regions (Castillo-Cabrera et al. 2025). Furthermore, collections from Guatemala, the Dominican Republic, and Costa Rica are sharing more than 64,000 records to GBIF directly from Symbiota portals. Data mobilization to this global aggregator has increased data access, generating over one thousand citations in scientific literature for these natural history collections. Additional perspectives about the use of Symbiota portals in Latin America, and their potential for biodiversity data integration and use were shared during the presentation. Original slides in Spanish are available as supplementary material Suppl. material 1.

Keywords

natural history collections, digitization, communities of practice

Presenting author

K. Samanta Orellana

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Conflicts of interest

The authors have declared that no competing interests exist.

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Supplementary material

Suppl. material 1: Portales Symbiota para la Integración de Información de Biodiversidad en Latinoamérica doi

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